

## A simple modified technique for repair of umbilical hernia in patients undergo laparoscopic cholecystectomy. Report of 10 cases

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**SUMMARY:** A simple modified technique for repair of umbilical hernia in patients undergo laparoscopic cholecystectomy. Report of 10 cases.

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**Background and aim.** *Umbilical hernia frequently accompanies cholelithiasis. It is possible to repair these hernias after completing cholecystectomy. We herein describe a simple modified technique for the repair.*

**Patients and method.** *The technique was applied to 10 patients undergone laparoscopic cholecystectomy. After cholecystectomy has been performed, periumbilical trocar incision is extended toward the umbilicus. The hernia sac is sent into the abdominal cavity and one or two simple sutures are put to approximate the fascial edges of the umbilical hernia. A similar approximation is done for trocar hole. A piece of polypropylene mesh covering both defects with an adequate overlap at four edges is fixed in onlay position.*

**Results.** *No wound complications were recorded. After a median of 23 months (6-40 months) follow-up no recurrence was observed.*

**Conclusion.** *This simple modified repair may especially be useful in centers where the surgeons can easily perform cholecystectomy laparoscopically, but are not familiar with laparoscopic hernia repair and mesh placement or haven't the equipment and material necessary for a laparoscopic repair.*

**RIASSUNTO:** Una semplice modifica tecnica per la plastica dell'ernia ombelicale in pazienti sottoposti a colecistectomia laparoscopica. Nostra esperienza in 10 casi.

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**Introduzione e scopo.** *L'ernia ombelicale spesso si associa a colelitiasi. È possibile realizzare la plastica dell'ernia dopo la colecistectomia in un unico tempo laparoscopico. Descriviamo una semplice modifica tecnica utile in questi casi.*

**Pazienti e metodi.** *La tecnica modificata è stata realizzata in 10 pazienti sottoposti a colecistectomia laparoscopica. Effettuata la colecistectomia, l'incisione del trocar periombelicale è prolungata verso l'ombelico. Si riporta quindi il sacco erniario in cavità e con 1-2 punti di sutura si avvicinano i bordi fasciali del difetto erniario, sempre attraverso l'incisione realizzata per l'introduzione del trocar. Una mesh in polipropilene viene quindi posizionata direttamente sulla superficie peritoneale (onlay) e fissata ai quattro punti cardinali, a coprire il difetto erniario e l'incisione per il trocar dell'ottica (overlap).*

**Risultati.** *Non abbiamo registrato alcuna complicanza delle incisioni addominali né recidive a un follow-up mediano di 23 mesi (range 6-40).*

**Conclusioni.** *Questa semplice modifica tecnica è particolarmente utile in centri con esperienza di videolaparocolecistectomia nei quali la riparazione laparoscopica dell'ernia ombelicale non è invece pratica frequente o mancano materiali e strumentazione specifici per realizzarla.*

**KEY WORDS:** Umbilical hernia - Mesh - Simultaneous surgery - Laparoscopic cholecystectomy.

Ernia ombelicale - Mesh - Chirurgia in unico tempo - Colecistectomia laparoscopica.

### Introduction

Umbilical hernia frequently accompanies cholelithiasis especially in female patients. Many patients are

willing to get their hernias repaired when they undergo cholecystectomy. Today most cholecystectomies are completed with laparoscop. In those cases, some surgeons prefer inserting the first trocar via umbilical ring with open technique or through supra/infra umbilical region, then, repairing the hernia with laparoscopic or open approach with simple suture technique or by using mesh.

On the other hand, trocar port hernias are not uncommon. These hernias can get quite large in patients prone to abdominal wall herniation and may cause severe complications if left untreated.

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Suture repairs result in recurrence in many patients with umbilical and port hernias. Lower recurrence rates can be obtained with mesh use, however, special laparoscopic equipment and meshes are needed. When the team is not experienced in laparoscopic intra-abdominal mesh placement or the equipment is not complete, the simple modified technique described here may be of benefit.

## Patients and method

The umbilical hernia is examined again just before starting the operation after general anesthesia has been set. Whether supra- or infra-umbilical incision is made for the first trocar is determined according to the extension of the hernia mass. Although there are several alternatives (Fig. 1), the first incision for camera port is preferably made vertically, not transversally, to make the further dissection for mesh placement easier. After cholecystectomy has been performed laparoscopically, the first incision is slightly extended towards the umbilicus. The hernia sac is sent into the abdominal cavity and one or two simple sutures are put to approximate the fascia. A similar approximation is done for trocar hole. A piece of polypropylene mesh covering both defects with an adequate overlap at four edges is fixed in onlay position to. A minivac suction drain can be left in-situ before closing the wound to avoid seroma (Fig. 2).

## Results

The technique described here was performed in 10 cases with no wound complications. After an average follow-up of 23 months (6-40 months) no recurrence was observed. No medium or long term mesh reactions or patient discomfort were recorded.

## Discussion

Simultaneous umbilical hernia repair is performed in 5-8% of laparoscopic cholecystectomies (1, 2). However, the reports which evaluate the results of these combined procedures are quite small in number.

Nassar et al. reported an incidence of 12% for umbilical or paraumbilical defects in patients underwent laparoscopic cholecystectomy (3). Interestingly, only 16.3% of the hernias were symptomatic; the majority of patients were unaware of the defect. Ramachandran found the incidence of fascial defects as 18% during abdominal laparoscopic procedures. The hernias were symptomatic in 56.5% cases, with an overwhelming female preponderance (4). He preferred a supra-umbilical incision above the upper limit of the hernia was used to establish the umbilical port and through this the hernias were repaired with nonabsorbable sutures.

Kamer and colleagues from Izmir, Turkey, investigated retrospectively the records of 64 (8.6%) out of 745

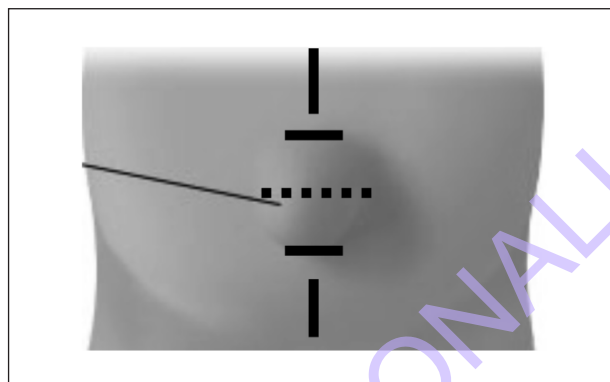


Fig. 1 - Incision alternatives for camera port insertion: vertical supra-umbilical; transverse supra-umbilical, umbilical over the hernia lump (for open technique); transverse infra-umbilical, vertical infra-umbilical.

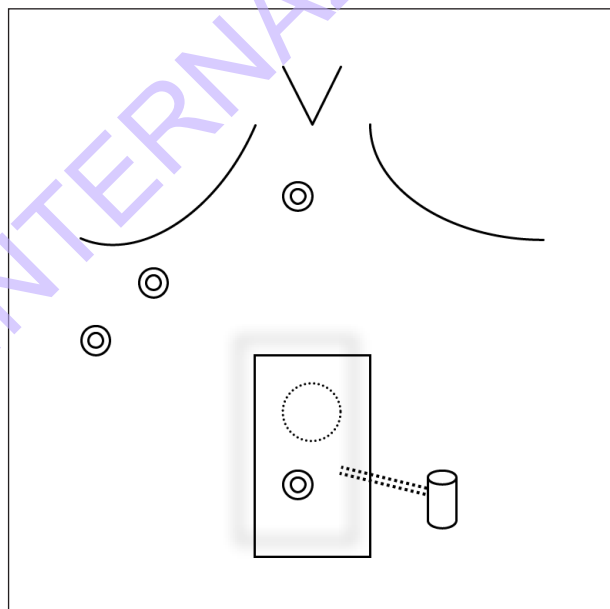


Fig. 2 - Schematic drawing of the technique. Mesh covers both umbilical defect and camera port hole.

patients who underwent laparoscopic cholecystectomy and umbilical hernia repair simultaneously (2). The recurrence rates were 9.4%, 5.6% and none (0%) in repair techniques of primary suture, Mayo repair, and mesh.

In fact, laparoscopic repair of umbilical hernias with mesh was considered as a reasonable alternative to open repairs (5-7). This is especially a good alternative in patients who have been already put in the operation list for laparoscopic cholecystectomy. The abdominal cavity can be entered either by using Hasson trocar technique via umbilicus (8) or with a supra- or infra-umbilical incision (4) (Fig. 2). However, if the surgeon prefers a mesh repair over a simple suture closure to avoid a high incidence of recurrence, special and more expensive prosthetic materials are needed.

Therefore, the simple combined technique described here may be an economic and reliable alternative. A rather large piece of mesh covers both defects and avoids any herniation either through the umbilical ring or trocar hole. This is obviously a combination of “repair” and “protection”; in other words “treatment” and “prophylaxis”.

This simple modified repair described above may

especially be useful in centers where the surgeons can easily perform cholecystectomy laparoscopically, but are not familiar to laparoscopic hernia repair and mesh placement or haven't the equipment and material necessary for a laparoscopic repair. The surgeons in these conditions may sometimes need this kind of “hybrid” techniques.

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